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REMARKS/ARGUMENTS

The outstanding Office Action rejects all claims 1-25 on various grounds and over *Tanahashi*. (USPN 6,184,477 hereinafter "*Tanahashi*"). Claims 26-31 were previously withdrawn and are now cancelled without prejudice. Claim 25 is also cancelled herein. Claims 1, 7, 10, 17-20, and 22 are amended. The various ground of rejections are discussed below. New Claims 32-37 are added. Claims 1-24 and 32-37 are now pending in this application.

Objections to Claims 19 and 24

Claims 19 and 24 have been objected to a being dependent on a rejected base claim.

Claim 19 has been amended to incorporate the base and intervening claims and is now in independent form. Therefore, Claim 19 is believed to be in allowable form

Claim 24 is dependent (indirectly) on base claim 10 which is amended and accordingly is now believed to be allowable for reasons explained below.

Accordingly, the applicants suggest that all objections have been overcome and therefore respectfully request that all claim objections be withdrawn at this time.

Rejections Under 35 U.S.C. § 102

Claims 1-6, 8-11, 13-18, 20-23, and 25 have been rejected under 35 U.S.C. § 102(b) as being anticipated by *Tanahashi*.

The applicants understand the rejection and the logic of the applied *Tanahashi* reference. The applicants believe that the claimed invention and the cited art are fundamentally different and hope that the amendments made above clearly illustrate the distinction.

The applicants point out that the ground lines of the claimed invention occupy the same layers as the signal lines. Due to the unique arrangement of the ground lines the signal lines can be interpolating between the between then on each layer having ground lines. This enables a space utilization not possible with the cited art. The idea of interpolating the signal lines between the ground lines *of the same layer* is the point of the claimed invention. The numerous problems with

the prior art structures are discussed in great detail in the Background section of the Specification. When these prior art problems are applied to the ground grating structure G2 of *Tanahashi* the problems illustrated in the Background become magnified. Thus, rather than solving the problem of enhancing signal connectivity at the ground plane, *Tanahashi* aggravates the problem. This is particularly evident because *Tanahashi* moves the signal lines S1 to entirely different layer (See, *Tanahashi* Figs. 2, 4, 6 and so on) in order to avoid the problems inherent in forming the signal lines and ground lines on the same layers as in the claimed invention.

Thus, the criss-cross grated structure of *Tanahashi* cannot function as claimed in the present invention. It cannot function as the comb-like bi-directionally oriented ground structures such as are taught in the invention (See, Figs. 3(a)-3(f), 4(a)-4(c), 5(a)-5(c), 6 and so on). There can be no interlaced signal lines (See, Fig. 3(e) and so on) as taught in the present invention.

The Amendments to **Claims 1 and 10** are particularly directed toward highlighting these issues. For example, **Claim 1**, as amended, now recites "a first layer having ... bi-directionally oriented electrical ground traces arranged in a hybrid configuration ... wherein the first layer includes longitudinal spaces between the ground traces enabling signal traces to be formed thereon". The same can be said for the second layer. It is important to point out that the signal lines S1 of *Tanahashi* lie on intermediate layers between the ground lines of different layers. That distinction is important because the structure is different from claimed signal lines which are on the same layer as the ground lines. Thus, being between ground lines of the same layer is what is claimed in **Claim 1** (and all of the other claims). Thus, *Tanahashi* cannot accommodate the same wide ranges of signal structures as **Claim 1**. Accordingly, because *Tanahashi* does not teach signal and ground structures arranged on the same layer it fails to establish a *prima facie* case of anticipation as to **Claim 1**.

As to base **Claim 10**, a much more involved, but essentially the same claim structure is taught. Thus, for at least this reasons the cited art does not teach all the limitations of **Claim 10** and so fails to establish a *prima facie* case of anticipation as to **Claim 10**.

Because the cited art fails to teach all claim elements it is insufficient to establish a rejection under 35 U.S.C. § 102. Therefore, the applicants respectfully request that this ground of rejection be withdrawn as to base **Claims 1 and 10**. Additionally, for at least the foregoing reasons, the

applicants respectfully request that this ground of rejection be withdrawn as to the claims depending from Claims 1 & 10 (Claims 2-6, 8, 9, 11, 13-18, and 20-24 and added Claims 32-34).

In summary, none of the cited art teaches all of the limitations recited in the claims rejected under 35 U.S.C. § 102. Accordingly, it is respectfully submitted that these grounds of rejection be withdrawn as to rejected Claims 1-6, 8-, 9-11, 13-18, and 20-24).

Rejections Under 35 U.S.C. § 103

Claims 7 and 12 stand rejected under 35 U. S. C. §§ 103(a) as being unpatentable over *Tanahashi*.

Applicants respectfully traverse this rejection as well. Applicants have already pointed out the deficiencies of the *Tanahashi* reference as to base claims 1 and 10. Nothing else is provided by the added cited portions of *Tanahashi* teach or suggest the claimed step of "a first layer having ... bi-directionally oriented electrical ground traces arranged in a hybrid configuration ... wherein the first layer includes longitudinal spaces between the ground traces enabling signal traces to be formed thereon". The same of course applies to the second layer. As before, the signal lines S1 of *Tanahashi* lie on intermediate layers between the ground lines of different layers, and NOT between ground lines of the same layer such as is claimed in Claim 1 (and all of the other claims). Moreover, *Tanahashi* does not teach or suggest any such modification. Accordingly, because *Tanahashi* does not teach signal and ground structures arranged on the same layer it fails to establish a *prima facie* case obviousness as to Claims 7 and 12. Therefore, applicants respectfully request that this ground for rejecting these claims be withdrawn.

New Claims:

Claims 32-37 have been added. Claims 32-34 depend from Claims 1 and 10 and should be allowable for at least the reasons set forth with respect to those claims. As to Claims 35-37, these claims have been added to specifically clarify certain patentable subject matter and thereby demonstrate there own independent basis for allowability. Moreover, the underlying art is believed to be insufficient for the reasons discussed above with respect to the other claims.

Conclusion:

In view of the foregoing amendments and remarks, it is respectfully submitted that the claimed invention as presently presented is patentable over the art of record and that this case is now in condition for allowance.

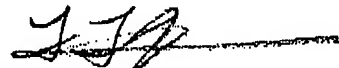
Accordingly, the applicants request withdrawal of all pending rejections and request reconsideration of the pending application and prompt passage to issuance. As an aside, the applicants clarify that any lack of response to any of the issues raised by the Examiner is not an admission by the applicant as to the accuracy of the Examiner's assertions with respect to such issues. Accordingly, applicant's specifically reserve the right to respond to such issues at a later time during the prosecution of the present application, should such a need arise.

As always, the Examiner is cordially invited to telephone the applicants representative to discuss any matters pertaining to this case. Should the Examiner wish to contact the undersigned for any reason, the telephone numbers set out below can be used.

Additionally, if any fees are due in connection with the filing of this Amendment, the Commissioner is authorized to deduct such fees from the undersigned's Deposit Account No. 50-0388 (Order No. APL1 P300).

Respectfully submitted,

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